

REMARKS

In paragraphs 4-18 of the Office Action the Examiner rejected claims 1 and 3-21 under 35 USC 103(a) as being obvious over CAB8-Computer Applications in Biotechnology, June 25-27, 2001 (hereinafter "Cornelissen et al.") in view of United States Patent No. 5,346,826 (hereinafter "Andrews").

Reconsideration is requested.

Cornelissen et al discloses a method for production of recombinant proteins. However, Cornelissen does not teach a method or device that employs a second harvest receptacle (18) for a cell-contaminated harvest of the retentate that is connected to the bioreactor (1) by way of a harvest line (19).

The Examiner stated in paragraph 3 of the Office Action that "it would be an obvious modification to tap the retentate line to include a three way valve to alter the flow between the bioreactor and a second harvest vessel". Applicants respectfully disagree. The present invention would not achieve the intended results by providing a three way valve from the retentate line (17) and splitting the feed between the first harvest receptacle (16) and the second harvest receptacle (18). In contrast the present invention provides two separate systems which remove medium from the bioreactor. A conveying line (13) moves medium to the downstream cross-flow filtration unit (5), which can then either pump the medium along a retentate line (17) back to the bioreactor (1) or along permeate line (15) to the first harvest receptacle (16). Separately, harvest line (19) runs from the bioreactor (1) to the second harvest receptacle (18). The retentate line (17) runs from the downstream cross flow filtration unit (5) back to the bioreactor (1), whereas the harvest line (19) runs from the bioreactor (1) to the second harvest receptacle (18) (*see* the present specification at Fig. 1 and paragraphs 0029-0032). Therefore it would not have been obvious, or possible, to simply tap the retentate line of Cornelissen et al. as suggested by the Examiner to achieve the dual harvest receptacle configuration of the present invention, especially, where the permeate moves alternately from a downstream cross-flow filtration unit (5) to either the first harvest receptacle (16) or back to the bioreactor (1).

Further, when the authors of Cornelissen et al. sought to remove waste or, cell contaminated harvest from the system, the waste was separately separated from the first harvest receptacle by an ultra filtration device and placed in a waste container (see Fig. 1 of Cornelissen et al.). The waste was not separately removed directly from the bioreactor, but from the first harvest receptacle. This is not the same method as recited in the claims of the present application.

Andrews is cited for its teachings regarding the use of a holding tank for storing cultivated cells before being separated by a centrifuge and/or being returned to the bioreactor for further growth. However, the holding tank (HT15) of Andrews would be more analogous to the downstream cross flow filtration unit (5) of the present invention (if it were analogous to any portion of the present invention) and not to the second harvest receptacle (18). This is because the medium flowing from the bioreactor (1) only returns to the bioreactor (1) by way of downstream cross-flow filtration unit (5) along retentate line (17), and not reversely from harvest line (19) and the second harvest receptacle (18).

Because neither Cornelissen et al., nor Andrews teach or suggest the use of a second harvest receptacle for storing cell contaminated retentate, wherein said second harvest unit is connected to the bioreactor by dedicated lines separate from the downstream cross-flow filtration unit (5) and the first harvest receptacle (16) it is respectfully requested that the 103(a) rejection be withdrawn.

In paragraphs 19-21 of the Office Action the Examiner rejected claims 2 under 35 USC 103(a) as being obvious over Cornelissen et al. in view of Andrews and further in view of United States Patent No. 5,403,479 (hereinafter "Smith et al.").

Reconsideration is requested.

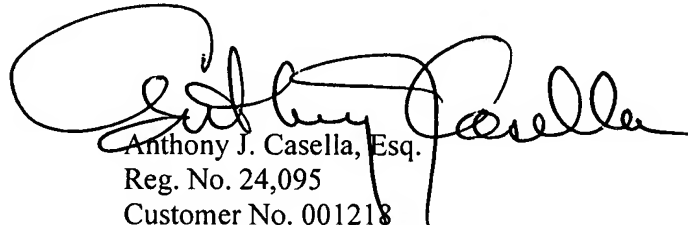
As discussed above, Cornelissen et al. and Andrews do not teach or suggest each and every element of claim 1 of the present application. Additionally, Applicants submit that Smith et al. does not alleviate the deficiencies that exist in Cornelissen et al. and Andrews. Smith is cited for its teachings regarding cleaning of membranes using cleaning solutions and biocidal solutions. These teachings do not alleviate the deficiencies with regard to claim 1, namely the lack of a second harvest receptacle for storing cell contaminated retentate connected to the bioreactor along dedicated lines.

Therefore Applicants submit that Claim 2 of the present invention is not obvious in view of the cited prior art and it is requested that the 103(a) rejection be withdrawn.

Based upon the above remarks, Applicants respectfully submit that claims 1-21 are allowable over the prior art and that the present application is in proper form for allowance. If the Examiner does not believe an allowance of the claims is appropriate at this time, Applicants request an Advisory Action because this Response is being submitted within 2 months of the mailing date of the Final Rejection.

Favorable consideration and early allowance is respectfully requested and earnestly solicited.

Respectfully submitted,



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